

## Beyond Data: Empowering Patients and Providers to Manage Risk and Improve Healthcare

### Background

In February of 2011, the U.S. Food and Drug Administration (FDA) issued a new black box warning label on fluoroquinolone medications regarding a recently identified risk for those with myasthenia gravis. Myasthenia gravis is an autoimmune disorder that causes muscle weakness and fatigue. The warning alerts patients to the potential worsening of symptoms if taking fluoroquinolones, a commonly prescribed antibiotic. An estimated 400 Sailors, Marines or their family members were diagnosed with myasthenia gravis between fiscal years 2006 and 2012. Though myasthenia gravis is rare, no cure exists.

### Operating Forward

The Health Analysis (HA) Department contacted Navy Medicine Military Treatment Facilities (MTF) patients with myasthenia gravis via mail, notifying them of the safety warning. HA also provided guidance to contact their individual primary care managers, and created a wallet card patients could take with them to appointments, empowering their direct communication with health care providers. Shortly after the letters were mailed, CAPT Paul Rockswold, Head of HA and a Navy Medicine family physician received a call from a concerned family member of a myasthenia gravis patient who had noticed an unfortunate worsening of symptoms in their loved one.

“It was great to hear that HA’s efforts made an impact,” said CAPT Rockswold, adding, “We want to empower Sailors, Marines and their families in managing their health by providing information and resources to make informed decisions. We believe this empowerment can positively affect the quality of life and the care delivered in our MTFs.”

Sample Wallet Card

The wallet card is divided into several sections. The top section, titled 'Fluoroquinolones include:', lists various medications: Avelox (moxifloxacin hydrochloride) tablets, Avelox (moxifloxacin hydrochloride in NaCl injection) I.V., Cipro (ciprofloxacin hydrochloride) Tablets, Oral Suspension, and I.V., Cipro XR (ciprofloxacin extended-release tablets), Noroxin (norfloxacin) Tablets, Levofloxacin (levofloxacin) Tablets, Oral Solution and Injection, Proquin XR (ciprofloxacin) Extended-Release Tablets, Floxin (ofloxacin) Tablets, and Factive (gemifloxacin mesylate) Tablets. The middle section features the Navy Marine Corps Public Health Center logo and a blue ribbon icon, with the text 'NAVY MARINE CORPS PUBLIC HEALTH CENTER' and 'PREVENTION AND PROTECTION START HERE'. Below this is a 'Safety Alert: Fluoroquinolones May Exacerbate Myasthenia Gravis' section, which states: 'Fluoroquinolones have neuromuscular blocking activity and may exacerbate muscle weakness in people with myasthenia gravis. Serious adverse events, including death and requirement for ventilatory support, have been associated with fluoroquinolone use in people with myasthenia gravis. Carefully consider fluoroquinolone use in patients with known history of myasthenia'. A QR code is located to the right of this text. The bottom section contains the URL 'http://www.med.navy.mil/sites/nmcphc/health-analysis'. The right edge of the card has a vertical yellow bar with the text 'For more information: http://www.med.navy.mil/sites/nmcphc/health-analysis' and a dark blue bar with the text 'HEALTH ANALYSIS DEPARTMENT' and 'NAVY MARINE CORPS PUBLIC HEALTH CENTER'.

**Fluoroquinolones include:**

- Avelox (moxifloxacin hydrochloride) tablets
- Avelox (moxifloxacin hydrochloride in NaCl injection) I.V.
- Cipro (ciprofloxacin hydrochloride) Tablets, Oral Suspension, and I.V.
- Cipro XR (ciprofloxacin extended-release tablets)
- Noroxin (norfloxacin) Tablets
- Levofloxacin (levofloxacin) Tablets, Oral Solution and Injection
- Proquin XR (ciprofloxacin) Extended-Release Tablets
- Floxin (ofloxacin) Tablets
- Factive (gemifloxacin mesylate) Tablets

**NAVY MARINE CORPS PUBLIC HEALTH CENTER**  
PREVENTION AND PROTECTION START HERE

**Safety Alert: Fluoroquinolones May Exacerbate Myasthenia Gravis**  
Fluoroquinolones have neuromuscular blocking activity and may exacerbate muscle weakness in people with myasthenia gravis. Serious adverse events, including death and requirement for ventilatory support, have been associated with fluoroquinolone use in people with myasthenia gravis. Carefully consider fluoroquinolone use in patients with known history of myasthenia

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HEALTH ANALYSIS DEPARTMENT  
NAVY MARINE CORPS PUBLIC HEALTH CENTER

### About HA

HA provides expertise and leadership to improve the value of Navy health care and operational force readiness through clinical health analysis, epidemiologic, and evidence-based methods. The department encourages health care professionals to contact them to suggest additional areas for quality improvement efforts.

For more on the Health Analysis Department visit: <http://www.med.navy.mil/sites/nmcphc/health-analysis/>.

